



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,702	06/24/2005	Andrei Terechko	NL 021384	2410

24737 7590 12/12/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

FONG, VINCENT

ART UNIT	PAPER NUMBER
----------	--------------

2112

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/540,702

Applicant(s)

TERECHKO ET AL.

Examiner

Vincent Fong

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10-31-2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the application filed on 06-24-2005.

Claims 1-7 are pending for examination.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10-31-2006 is being considered by the examiner.

Drawings

3. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 2112

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: SCS in figure 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

Art Unit: 2112

be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10/540409. Although the conflicting claims are not identical, they are not patentably distinct from each other because both discloses a clustered instruction level parallelism processor comprising clusters with register file and functional unit, segmented bus to connect the clusters and switches to connect and disconnect adjacent segments.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/552076. Although the conflicting claims are not identical, they are not patentably distinct from each other because both discloses a clustered instruction level parallelism processor comprising clusters with register file and functional unit, clusters are connected to register which the number of register depends on the distance between clusters.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Zulian et al. (EP 0 892 352 A1, hereinafter Zulian).

As per claim 1, Zulian discloses:

A clustered Instruction Level Parallelism processor (multiprocessor system), a system with multiple processor can process multiple instructions at the same time thus instruction level parallelism, comprising a plurality of clusters each comprising at least one register file (local memory) and at least one functional unit (computing unit) (page 2 line 56 to page 3 line 9); wherein said clusters are fully-connected to each other (thru element 105 in figure 1); and wherein the latency of the connections between said clusters is dependent on the distance between said clusters (page 2 lines 35-36 and figure 2).

As per claim 2, rejection of claim 1 is incorporated and Zulian further discloses: comprising at least one pipeline register (Bl1 and Br1) arranged between each two clusters(U1 and U2) (figure 1).

As per claim 3, rejection of claim 2 is incorporated and Zulian further discloses:

Art Unit: 2112

the number of pipeline registers between two clusters depend on the distance between said two clusters (figure 1), 2 registers between U1 and U2 while 4 registers between U1 and U3 which is a longer distance.

As per claim 5, rejection of claim 1 is incorporated and Zulian further discloses:
the clusters are connected to each other via a bus connection (element 105 in figure 1).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zulian in view of applicants' admitted prior art.

As per claim 4, rejection of claim 1 is incorporated and Zulian discloses the limitation of claim 1.

Zulian does not disclose the clusters are connected to each other via a point to point connection.

However, applicants' admitted prior art discloses the clusters are connected to each other via a point to point connection (page 2 lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have make the necessary modification on Zulian's inventions to

Art Unit: 2112

incorporate applicants' admitted prior art. One of ordinary skill in the art would be motivated to simplify the instruction scheduling by having a dedicated direct connection between clusters (page 2 lines 1-8).

12. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zulian in view of Tsuruta et al. (US PG Pub 2001/0054124 A1, hereinafter Tsuruta).

As per claim 6, rejection of claim 5 is incorporated and Zulian further discloses: bus connection (element 105 in figure 1) is adapted for connecting said clusters and comprises a plurality of bus segments (element B1-B4 in figure 1).

Zulian does not disclose said processor further comprising: switching means, arranged between adjacent bus segments, for connecting or disconnecting adjacent bus segments.

However, Tsuruta discloses said processor further comprising: switching means (5-1 to 5-N in figure 6), arranged between adjacent bus segments (segment of 2 between switches in figure 6), for connecting or disconnecting adjacent bus segments (figure 8).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have make the necessary modification on Zulian's inventions to incorporate Tsuruta's invention. One of ordinary skill in the art would be motivated to provide a connection format with optimal cost and technicality.

As per claim 7, rejection of claim 6 is incorporated and Tsuruta further discloses:

Art Unit: 2112

bus connection is a multi-bus (parallel bus) comprising at least two busses (element 2,3 in figure 6).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wertheim et al. (WO 01/73566A2) discloses a processor system with segmented bus and switches for controlling the connection/disconnection of adjacent bus segments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Fong whose telephone number is 571-270-1409. The examiner can normally be reached on Monday to Thursday from 7:00 to 4:30. The examiner can also be reached on alternate Friday from 7:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chameli Das can be reached on 571-272-3696. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2112

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vincent Fong
December 7, 2006

VF

Chameli C. Das
CHAMELI DAS
SUPERVISORY PATENT EXAMINER

12/7/06